SystemC CCI WG
Elaboration Time Parameter Example

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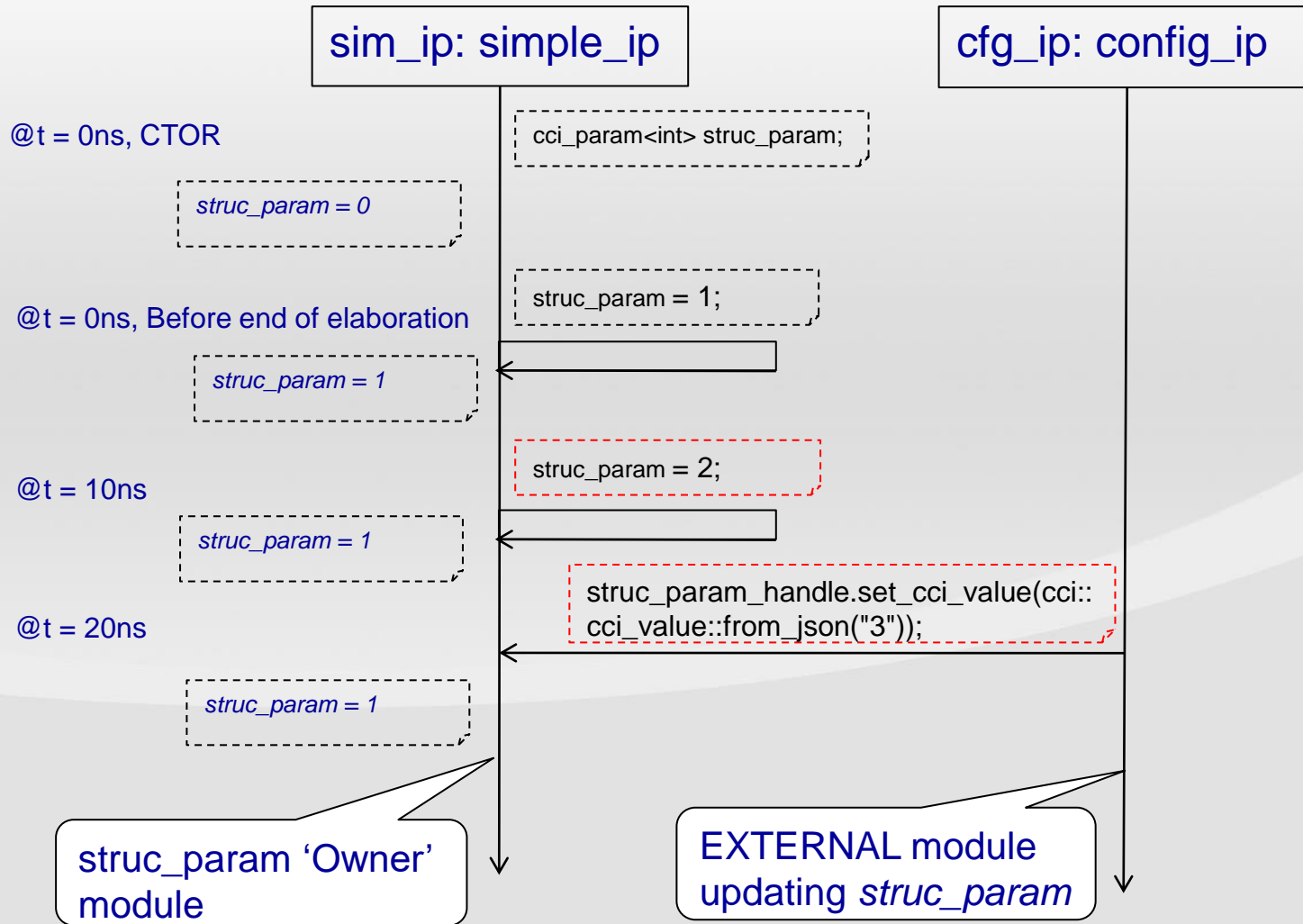
Elaboration-Time Parameters

Use of structural parameters:

- **Handing of invalid (post-elaboration) updates to structural parameter values.**

- **Demonstrate how models that finalize their structure prior to end_of_elaboration should lock their elaboration-time parameters.**

Example Sequence Diagram

Demonstrates how models that finalize their structure prior to end_of_elaboration should lock their elaboration-time parameters.

sim_ip: simple_ip

cfg_ip: config_ip

@t = 0ns, CTOR

cci_param<int> struc_param;

struc_param = 0

@t = 0ns, Before end of elaboration

struc_param = 1;

struc_param = 1

struc_param = 2;

@t = 10ns

struc_param = 1

struc_param_handle.set_cci_value(cci::cci_value::from_json("3"));

@t = 20ns

struc_param = 1

struc_param 'Owner' module

EXTERNAL module updating *struc_param*

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Expected Output (`ex03_Elab_Time_Param.log`)

```
SystemC Simulation

Info: sim_ip: @0 s, Ctor: Default value of sim_ip.struc_param is 0

Info: sc_main: Begin Simulation.

Info: sim_ip: @0 s, Before_End_Elab: Set value of struc_param to 1

Info: sim_ip: @0 s, Before_End_Elab: Value of struc_param changed to 1

Info: sim_ip: @10 ns, execute: Set value of struc_param to 2

Error: /Accellera/CCI/SET_PARAM_FAILED: Parameter locked.
In file: <removed by verify.pl>
In process: sim_ip.execute @ 10 ns

Info: sim_ip: @10 ns, execute: Value of struc_param unchanged 1

Info: cfg_ip: @20 ns, execute: [EXTERNAL] Set value of sim_ip.struc_param to 3

Error: /Accellera/CCI/SET_PARAM_FAILED: Param locked.
In file: <removed by verify.pl>
In process: cfg_ip.execute @ 20 ns

Info: cfg_ip: @20 ns, execute: [EXTERNAL] Value of sim_ip.struc_param remains unchanged 1

Info: sc_main: End Simulation.

Info: sim_ip: Dtor: Current value of sim_ip.struc_param is 1
```

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